

WHAT IS CLAIMED IS:

1. A steam turbine plant, comprising:
  - a steam generator;
  - a plurality of low pressure turbines being driven by steam from the steam generator;
  - a plurality of steam condensers to condense the steam from the low pressure turbines into condensed water;
  - a feedwater line which supplies the condensed water to the steam generator as feedwater, the feedwater line including a plurality of feedwater heating lines connected in parallel, a number of feedwater heating lines being less than a number of steam condensers; and
  - a plurality of low pressure feedwater heaters;
  - wherein each of the feedwater heating lines includes at least one low pressure feedwater heater provided in at least one of the steam condensers to heat the condensed water by steam bled from the low pressure turbines.
2. A steam turbine plant according to claim 1,
  - wherein at least one of the feedwater heating lines includes a plurality of low pressure feedwater heaters connected in series, and
  - wherein a first number of low pressure feedwater heaters provided in a first steam condenser is different than a second number of low pressure feedwater heaters provided in a second steam condenser.

3. A steam turbine plant according to claim 1,  
wherein the steam condensers include at least a first steam condenser and a second steam condenser;

wherein at least one of the feedwater heating lines includes at least a first low pressure feedwater heater and a second low pressure feedwater heater connected in series; and

wherein the first low pressure feedwater heater is provided in the first steam condenser and the second low pressure feedwater heater is provided in the second steam condenser.

4. A steam turbine plant according to claim 1,  
wherein each of the steam condensers is provided with at least one of the low pressure feedwater heaters.

5. A steam turbine plant according to claim 1, further comprising:

a high pressure turbine provided at an upstream side of the low pressure turbines and being driven by the steam from the steam generator;

a high pressure feedwater pump which provides pressure to the feedwater from the low pressure feedwater heaters; and

a high pressure feedwater heater provided in at least one of the steam condensers to heat the feedwater by steam bled from the high pressure turbine.

6. A steam turbine plant according to claim 1, further comprising:

a plurality of casings, a respective casing for each of

the low pressure turbines;

wherein each of the casings is provided with a bleeding opening, a position of the bleeding opening being substantially the same for each of the casings.

7. A steam turbine plant according to claim 1, further comprising:

a plurality of casings, a respective casing for each of the low pressure turbines;

wherein each of the casings is connected to a bleeding line; and

wherein, for each casing, the respective bleeding line is connected to at least one of the low pressure feedwater heaters provided in the steam condensers connected with that casing.

8. A steam turbine plant according to claim 1, further comprising:

a plurality of casings, a respective casing for each of the low pressure turbines;

wherein each of the casings is provided with a bleeding opening; and

a bleeding line is provided between a bleeding opening of a casing connected to a first steam condenser and a low pressure feedwater heater provided in a second steam condenser.

9. A steam turbine plant according to claim 8,

wherein the first and second steam condensers are connected by a connection shell.

10. A steam turbine plant according to claim 1, further comprising:

a plurality of steam bleeding lines connected to the low pressure steam turbines;

a bleeding steam header connected with at least one of the steam bleeding lines; and

a bleeding steam supply line provided between the bleeding steam header and at least one of the low pressure feedwater heater.

11. A steam turbine plant according to claim 10,

wherein the bleeding steam header is provided inside of the steam condensers.

12. A steam turbine plant according to claim 10,

wherein the bleeding steam header is provided outside of the steam condensers.

13. A steam turbine plant according to claim 1,

wherein at least one of the steam condensers is free of any low pressure feedwater heaters.

14. A steam turbine plant according to claim 1,

wherein an output of a low pressure feedwater heater in a first steam condenser leads to a low pressure feedwater heater in a second steam condenser.

15. A steam turbine plant, comprising:

a steam generator;

a plurality of low pressure turbines being driven by steam from the steam generator;

a plurality of steam condensers to condense the steam from the low pressure turbines into condensed water;

a feedwater line which supplies the condensed water to the steam generator as feedwater, the feedwater line including a plurality of first feedwater heating lines connected in parallel and a plurality of second feedwater heating lines connected in parallel and coupled to the downstream side of the first feedwater heating lines, a first number of first feedwater heating lines being different than a second number of second feedwater heating lines; and

a plurality of low pressure feedwater heaters;

wherein each of the first and second feedwater heating lines includes at least one low pressure feedwater heater provided in at least one of the steam condensers to heat the condensed water by steam bled from the low pressure turbines.

16. A steam turbine plant according to claim 15,

wherein at least one of the first and second feedwater heating lines includes a plurality of low pressure feedwater heaters connected in series, and

wherein a first number of low pressure feedwater heaters provided in a first steam condenser is different than a second number of low pressure feedwater heaters provided in a second steam condenser.

17. A steam turbine plant according to claim 15,

wherein the steam condensers include at least a first steam condenser and a second steam condenser;

wherein at least one of the first and second feedwater heating lines includes at least a first low pressure feedwater heater and a second low pressure feedwater heater connected in series; and

wherein the first low pressure feedwater heater is provided in the first steam condenser and the second low pressure feedwater heater is provided in the second steam condenser.

18. A steam turbine plant according to claim 15, further comprising:

a plurality of casings, a respective casing for each of the low pressure turbines;

wherein each of the casings is provided with a bleeding opening, a position of the bleeding opening being substantially the same for each of the casings.

19. A steam turbine plant according to claim 15, further comprising:

a plurality of casings, a respective casing for each of the low pressure turbines;

wherein each of the casings is connected to a bleeding line; and

wherein, for each casing, the respective bleeding line is connected to at least one of the low pressure feedwater heaters provided in the steam condensers connected with that casing.

20. A steam turbine plant according to claim 15, further comprising:

a plurality of casings, a respective casing for each of the low pressure turbines;

wherein each of the casings is provided with a bleeding opening; and

a bleeding line is provided between a bleeding opening of a casing connected to a first steam condenser and a low pressure feedwater heater provided in a second steam condenser.

21. A steam turbine plant according to claim 20,

wherein the first and second steam condensers are connected by a connection shell.

22. A steam turbine plant according to claim 15, further comprising:

a plurality of steam bleeding lines connected to the low pressure steam turbines;

a bleeding steam header connected with at least one of the steam bleeding lines; and

a bleeding steam supply line provided between the bleeding steam header and at least one of the low pressure feedwater heaters.

23. A steam turbine plant according to claim 22,

wherein the bleeding steam header is provided inside of the steam condensers.

24. A steam turbine plant according to claim 22,

wherein the bleeding steam header is provided outside of the steam condensers.

25. A steam turbine plant according to claim 15,  
wherein the first number of first feedwater heating lines is equal to the number of steam condensers.

26. A steam turbine plant according to claim 25,  
wherein the first number of first feedwater heating lines is greater than the second number of second feedwater heating lines.

27. A steam turbine plant according to claim 15,  
wherein an output of a low pressure feedwater heater in a first steam condenser leads to a low pressure feedwater heater in a second steam condenser.

28. A steam turbine plant, comprising:  
a steam generator;  
a plurality of low pressure turbines being driven by steam from the steam generator;

a plurality of steam condensers to condense the steam from the low pressure turbines into condensed water;

a feedwater line which supplies the condensed water to the steam generator as feedwater, the feedwater line including a plurality of feedwater heating lines connected in parallel;  
and

a plurality of low pressure feedwater heaters;

wherein each of the feedwater heating lines includes at least one low pressure feedwater heater provided in at least



one of the steam condensers to heat the condensed water by steam bled from the low pressure turbines, and

wherein a first number of low pressure feedwater heaters provided in a first steam condenser is different than a second number of low pressure feedwater heaters provided in a second steam condenser.

29. A steam turbine plant according to claim 28,

wherein at least one of the feedwater heating lines includes a plurality of low pressure feedwater heaters connected in series.

30. A steam turbine plant according to claim 28,

wherein at least one of the feedwater heating lines includes at least a first low pressure feedwater heater and a second low pressure feedwater heater connected in series; and

wherein the first low pressure feedwater heater is provided in the first steam condenser and the second low pressure feedwater heater is provided in the second steam condenser.

31. A steam turbine plant according to claim 28,

wherein each of the steam condensers is provided with at least one of the low pressure feedwater heaters.

32. A steam turbine plant according to claim 28, further comprising:

a high pressure turbine provided at an upstream side of the low pressure turbines and driven by the steam from the steam generator;

a high pressure steam bleeding line connected to the high pressure turbine;

a high pressure feedwater pump which provides pressure to the feedwater from the feedwater line; and

a high pressure feedwater heater provided in at least one of the steam condensers to heat the feedwater by steam bled from the high pressure steam bleeding line.

33. A steam turbine plant according to claim 28, further comprising:

a plurality of casings, a respective casing for each of the low pressure turbines;

wherein each of the casings is provided with a bleeding opening, a position of the bleeding opening being substantially the same for each of the casings.

34. A steam turbine plant according to claim 28, further comprising:

a plurality of casings, a respective casing for each of the low pressure turbines;

wherein each of the casings is connected to a bleeding line; and

wherein, for each casing, the respective bleeding line is connected to at least one of the low pressure feedwater heaters provided in the steam condensers connected with that casing.

35. A steam turbine plant according to claim 28, further comprising:

a plurality of casings, a respective casing for each of the low pressure turbines;

wherein each of the casings is provided with a bleeding opening; and

a bleeding line is provided between a bleeding opening of a casing connected to the first steam condenser and a low pressure feedwater heater provided in the second steam condenser.

36. A steam turbine plant according to claim 35,

wherein the first and second steam condensers are connected by a connection shell.

37. A steam turbine plant according to claim 28, further comprising:

a plurality of steam bleeding lines connected to the low pressure steam turbines;

a bleeding steam header connected with at least one of the steam bleeding lines; and

a bleeding steam supply line provided between the bleeding steam header and at least one of the low pressure feedwater heaters.

38. A steam turbine plant according to claim 37,

wherein the bleeding steam header is provided inside of the steam condensers.

39. A steam turbine plant according to claim 37,

wherein the bleeding steam header is provided outside of the steam condensers.

40. A steam turbine plant according to claim 28,  
wherein at least one of the steam condensers is free of  
any low pressure feedwater heaters.
41. A steam turbine plant according to claim 28,  
wherein an output of a low pressure feedwater heater in  
a first steam condenser leads to a low pressure feedwater heater  
in a second steam condenser.